

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method comprising:  
defining a plurality of minutiae in a fingerprint image including data related to x,y coordinates and an angle for a minutia and data related to a classification of the minutia as a termination or bifurcation minutia;  
removing minutiae that are not classified as a termination or bifurcation minutia;  
estimating a score associated with a minutia corresponding to a validity of the minutia including based upon ridge flow properties, valley flow properties, and noise associated with the minutia for the fingerprint image, wherein the score due to noise corresponds to the amount of noise about the minutia in a pre-determined window about the minutia, and the score is further estimated based upon whether the minutia is classified as a termination or bifurcation minutia;  
and  
matching the fingerprint image against one or more sample fingerprint images utilizing a two-dimensional partial point set pattern matching (PSPM) algorithm under translation and rotation utilizing the score.
2. (Canceled).
3. (Canceled).
4. (Previously Presented) The method of claim 1, wherein the definition of the minutia includes data related to the estimated score for the minutia.
5. (Previously Presented) The method of claim 1, wherein estimating the score associated with the minutia includes estimating the score for ridge flow properties associated with the minutia.

6. (Previously Presented) The method of claim 1, wherein estimating the score associated with the minutia includes estimating the score for valley flow properties associated with the minutia.

7. (Canceled).

8. (Previously Presented) The method of claim 1, wherein estimating the score associated with the minutia includes determining the score by summing the score for ridge flow properties, valley flow properties, and noise associated with the minutia.

9. (Canceled).

10. (Currently Amended) An apparatus comprising:  
an integrated circuit; and

a processor included with the integrated circuit to implement operations including:

defining a plurality of minutiae in a fingerprint image including data related to x,y coordinates and an angle for a minutia and data related to a classification of the minutia as a termination or bifurcation minutia;

removing minutiae that are not classified as a termination or bifurcation minutia;

estimating a score associated with a minutia corresponding to a validity of the minutia ~~including~~ based upon ridge flow properties, valley flow properties, and noise associated with the minutia for the fingerprint image, wherein the score due to noise corresponds to the amount of noise about the minutia in a pre-determined window about the minutia, and the score is further estimated based upon whether the minutia is classified as a termination or bifurcation minutia; and

matching the fingerprint image against one or more sample fingerprint images utilizing a two-dimensional partial point set pattern matching (PSPM) algorithm under translation and rotation utilizing the score.

11. (Canceled).

12. (Canceled).

13. (Previously Presented) The apparatus of claim 10, wherein the definition of the minutia includes data related to the estimated score for the minutia.

14. (Previously Presented) The apparatus of claim 10, wherein estimating the score associated with the minutia includes estimating the score for ridge flow properties associated with the minutia.

15. (Previously Presented) The apparatus of claim 10, wherein estimating the score associated with the minutia includes estimating the score for valley flow properties associated with the minutia.

16. (Canceled).

17. (Previously Presented) The apparatus of claim 10, wherein estimating the score associated with the minutia includes determining the score by summing the score for ridge flow properties, valley flow properties, and noise associated with the minutia.

18. (Canceled).

19. (Currently Amended) A machine-readable medium having stored thereon instructions, which when executed by a machine, cause the machine to perform the following operations comprising:

defining a plurality of minutiae in a fingerprint image including data related to x,y coordinates and an angle for a minutia and data related to a classification of the minutia as a termination or bifurcation minutia;

removing minutiae that are not classified as a termination or bifurcation minutia;

estimating a score associated with a minutia corresponding to a validity of the minutia ~~including~~ based upon ridge flow properties, valley flow properties, and noise associated with the minutia for the fingerprint image, wherein the score due to noise

corresponds to the amount of noise about the minutia in a pre-determined window about the minutia, and the score is further estimated based upon whether the minutia is classified as a termination or bifurcation minutia; and

matching the fingerprint image against one or more sample fingerprint images utilizing a two-dimensional partial point set pattern matching (PSPM) algorithm under translation and rotation utilizing the score.

20. (Canceled).

21. (Canceled).

22. (Previously Presented) The machine-readable medium of claim 19, wherein the definition of the minutia includes data related to the estimated score for the minutia.

23. (Previously Presented) The machine-readable medium of claim 19, wherein estimating the score associated with the minutia includes estimating the score for ridge flow properties associated with the minutia.

24. (Previously Presented) The machine-readable medium of claim 19, wherein estimating the score associated with the minutia includes estimating a score for valley flow properties associated with the minutia.

25. (Canceled).

26. (Previously Presented) The machine-readable medium of claim 19, wherein estimating the score associated with the minutia includes determining the score by summing the score for ridge flow properties, valley flow properties, and noise associated with the minutia.

27. (Canceled).